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(54) Title: **A SYSTEM FOR CUSTOMIZING PERSONAL CARE PRODUCTS**

(57) Abstract: **A system is described for providing a customized, personal care product to a consumer at a location, typically the point of sale, that is remote from a second location in which a personal care product base composition is prepared. A selection of performance agents of different classes with a common vehicle is made available to the consumer for custom formulation of a personal care product with the desired attributes. The system typically includes a product base, a fragrance part, and one or more performance agent parts that may contain benefit agents, botanical extracts, active ingredients for skin and hair, and the like. A blank vehicle is substituted if insufficient performance agents are selected.**

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A SYSTEM FOR CUSTOMIZING PERSONAL CARE PRODUCTS

The present invention relates to system for customizing personal care products, in particular a system for providing  
5 a customised personal care product to a consumer at a location remote from a second location in which a personal care product base composition is prepared.

10 Many personal care products such as body wash, facial cleansing gel, hair shampoo, hair conditioner, face lotion and other personal care products that are currently available are provided as prepared formulations. A drawback  
15 of such products is that the user cannot alter the formulation to accommodate their particular skin and hair characteristics, personal preferences, or to provide specialized treatment. A further drawback is the uncertainty of the age and freshness of the prepared  
20 formulation which may have been prepared many months or years before the product is sold.

Multiple-part product kits that contain separate components of e.g. a hair shampoo, hair conditioner, cosmetics, or other personal care products are available from many  
25 professional salons and some retail personal care outlets. However, the user is still unable to customize the individual formulations in light of the consumer's unique personal care preferences and requirements.

30 Therefore, one aspect of the invention is to provide a system that enables a user to formulate a variety of personal care product compositions to best suit the needs of

the consumer. Another aspect of the invention is to provide a system that is easy to use such that the user may be a layperson who is able to formulate a customized personal care product. Another aspect of the invention is to provide  
5 a plurality of performance agents in a common vehicle, which are compatible with the personal care product base, and form a stable personal care product, which is freshly blended.

A system is provided for preparing a customized, personal  
10 care product for a consumer at a location remote from a second location in which a personal care product base composition is prepared, preferably at the point of retail sale. The system comprises providing a selection of personal care base compositions and a plurality of variants  
15 from two or more classes of performance agents whereby the variants of any one class have at least two ingredients in common with each other, and which are compatible with each other when all the components are mixed together.

20 A "plurality" as used herein is defined as a number greater than one. "Variants" as used herein are defined as distinct members of a single class of performance agent which may be selected from such classes as botanical extracts, emollients, vegetable oils, active agents for treating or  
25 preventing skin disorders, vitamins, and the like. Variants may differ from each other with respect to either the identity (e.g. vitamin E acetate and vitamin A palmitate), or in the concentration of the aforementioned components.

30 Preferably, the second class of performance agent has at least three ingredients in common. The consumer is allowed

to select, in any sequence, one personal care base composition and at least two variants from separate classes of performance agents, such as a fragrance and a benefit agent. The user doses, in any sequence, the consumer  
5 selected personal care base composition, performance agents, and, if necessary, sufficient vehicle into a container, mixes the contents until uniform, and labels the container. The vehicle is flowable and may be a liquid, paste, flowable powder, or extrudable solid. Preferably the vehicle is a  
10 liquid with a viscosity ranging from water-like to 100,000 cps at 25 °C.

A sufficient quantity of a blank composition having at least two ingredients in common with at least one performance  
15 agent present in the product, and preferably having substantially the same vehicle composition as that of the performance agent may be dosed in the container if an insufficient number of performance agents are selected by the consumer. This allows for maintaining each of the  
20 following product characteristics: optimum concentration of base product ingredients, stability, viscosity, texture, clarity, and skin feel; while providing many choices for the consumer in customizing the product.

25 Inventive personal care product base compositions include cleansing and conditioning product bases useful for formulating body wash, body lotion, body mist spray, hydroalcoholic toner, facial cleansing gel, hand cleanser, hair shampoo, hair conditioner, a face lotion, a deodorant,  
30 a bar soap, a bath foam, bath salts, and the like.

Accordingly, in one aspect of the invention there is provided a system for providing a customized, personal care product to a consumer at a location remote from a second location in which a personal care product base composition  
5 is prepared. The system comprises the following:

- (a) providing a selection from a plurality of personal care base compositions in separate containers;
- 10 (b) providing a selection from a plurality of variants from a first class of performance agents in separate containers, each of the variants being delivered in a first vehicle, the first vehicle for each of the variants having at least two ingredients in common with each other, the first  
15 vehicle being compatible with a mixture of the personal care base composition, and a second class of performance agents different from the first class;
- 20 (c) providing a selection from a plurality of variants of the second class of a performance agents in separate containers, each of the variants being delivered in a second vehicle, the second vehicle for each of the variants having at least two ingredients in common with each other;
- 25 (d) permitting the consumer to select, in any sequence, at least one personal care base composition; at least one variant from the first class of performance agents; and at least one variant from the second class of performance  
30 agents;

- (e) dosing, in a predetermined sequence, the consumer selected personal care base composition and performance agents into a container to form a personal care product; and
- 5 (f) mixing the personal care product until the product is uniform.

The predetermined sequence of dosing the personal care base and performance agents will normally be a random one i.e. where any sequence may be used. However, certain products will have greater stability if dosed in a specific sequence such as for body toner where the product base should be dosed first, for maximum stability.

15 In another aspect of the inventive method, a sufficient quantity of a blank composition is dosed into the product container, in substitution for at least one performance agent, whereby the final concentration of base product ingredients in the personal care composition is adjusted to be substantially equal to that of a final product where no substitution of the performance agents was made. Preferably, the blank composition has at least two ingredients in common with any one of the performance agents contained in the final product.

25 Preferably the personal care product is provided to the consumer at the point of retail sale.

The personal care product base compositions useful in the invention typically contain one or more of the following: a solvent such as water, monohydric and/or polyhydric

alcohols, polyethylene glycol, and the like; soaps, surfactants such as anionic, cationic, amphoteric, zwitterionic surfactants, and the like; conditioning agents such as cationic polymers, silicone polymers and the like; 5 thickening agents such as acrylates, polysaccharide polymers, and the like; lathering aids such as alkanolamides and the like; emollients such as vegetable oils, fatty esters, and the like; pH adjusters, and preservatives. Further examples of useful solvents, surfactants, 10 conditioning agents, thickening agents, lathering aids, emollients, pH adjusters, and preservatives are listed in the CTFA Cosmetic Ingredient Handbook, second edition, 1990; herein incorporated by reference.

15 Other examples of useful anionic, amphoteric, and zwitterionic surfactants, and foam boosters of the personal care product base compositions useful in the invention are described in U.S. Patent No. 5,221,530; incorporated herein by reference. Examples of useful hair shampoo, conditioner, 20 and styling base compositions useful in the invention are described in U.S. Patent No. 5,993,792; incorporated herein by reference. Preferably, the personal care product base has a viscosity in the range of about 0.9 to 100,000 cps at 25 °C, more preferably in the range of about 0.9 to 30,000 25 cps at 25 °C.

The viscosity of the product base can be varied, from a pourable liquid, to a thick paste or extrudable material, depending on its composition and the amount of thickener 30 added to the base. The product base may also comprise a flowable powder.

In another aspect of the invention, a customized label is applied to the product container which identifies the product and only the components of the base formula and  
5 dosed performance agents actually contained in the container. Such a label may be generated by any suitable means, but is preferably generated by a computer interfaced with a printer which allows for the user to input the consumer's custom product selections and accesses a database  
10 of ingredients contained in the available product bases and performance agent compositions to produce a customized label.

The same computer printer combination may also be used to  
15 insert a code on the label, e.g. a machine readable bar code or the like, capable of tracking the identity of both the product and the consumer for later reference. In this way, the consumer can easily reorder the custom product from the same location the product was purchased or from a remote  
20 location. The consumer may also return to the store or kiosk and allow the previous label to be scanned thus facilitating the purchase of additional product.

One class of performance agents may typically be fragrances,  
25 and may contain a solvent, such as water, a monohydric alcohol, a polyhydric alcohol or a blend thereof. Among suitable monohydric alcohols are ethanol, isopropanol, butanol, hexanol and combinations thereof, and the like. Most preferred is ethanol. Suitable polyhydric alcohols  
30 include glycerin (known also as glycerol), propylene glycol, dipropylene glycol, polyethylene glycol, sorbitol,



hydroxypropyl sorbitol, hexylene glycol, 1,3-butylene glycol, isopropylene glycol and mixtures thereof, and the like. Most preferred are propylene glycol and polyethylene glycol.

5

This class of performance agent also contains at least one preservative, preferably one or more of a biocide, a chelate, an UV inhibitor and an antioxidant or any combination thereof. More preferably the fragrance agent  
10 contains DMDM Hydantoin, Iodopropynyl Butylcarbamate, and EDTA, and an UV inhibitor. Another aspect of the invention is the availability of fragrance and other performance agent intensity levels that are selectable by the consumer. Further examples of useful preservatives, chelates,  
15 antioxidants, and UV inhibitors are listed in the CTFA Cosmetic Ingredient Handbook, second edition, 1990.

Other classes of performance agents of the invention may include a colourant, and a benefit agent. Inventive benefit  
20 agents include emollients, botanical extracts, vitamins, other active ingredients to prevent or treat undesired skin and hair conditions, and the like. Additionally, the inventive benefit agents contain a solvent such as water, a monohydric alcohol, or a polyhydric alcohol, e.g. propylene  
25 glycol or the like; a solubilizing agent, and at least one preservative. Preferably the solubilizing agent is selected from at least one of a polyethylene glycol ether of a fatty alcohol, a polyethylene glycol ether of hydrogenated castor oil, a polyethylene glycol derivative of a sorbitan ester, a  
30 polysorbate, a glycerol ester, a polyethylene glycol derivative of a glycerol ester, an alkyl phosphate, and an

alkyl sulfate, and the like. Further examples of useful benefit and solubilizing agents are listed in the CTFA Cosmetic Ingredient Handbook, second edition, 1990. Preferably preservatives consist of one or more of a biocide, a chelate, an UV inhibitor, and an antioxidant or any combination thereof. More preferably, the performance agent preservatives are selected from DMDM Hydantoin, Iodopropynyl Butylcarbamate, polyaminocarboxylic acid chelates or their salts such as EDTA, phosphonate chelates and the like. The inventive blank performance agent, or vehicle, contains substantially no fragrance or benefit agent, and has at least two ingredients in common with at least one of the other performance agents in its class, including preferably a solvent, and one or more solubilizing agents. Preferably the blank benefit agent has at least three ingredients in common with the other benefit agents including preferably a solvent, one or more solubilizing agents, and a preservative.

In another aspect, the inventive system produces custom products of convenient volume to facilitate consumer use. Preferably, the container for the final product has a volume under about 1 liter. Preferably, the container has a neck to facilitate pouring and is threaded or flanged to accept a cap, pump, or the like. The container may be opaque, translucent, or transparent; in whole or in part, and made of any suitable material which is not attacked by the contents of the product contained therein. Suitable materials include glass, plastic, barrier-coated paper, metal, or composites or laminates thereof. Preferably, the

product container is made of polyethylene, polypropylene, or PET; and is transparent or translucent.

Prior to mixing the contents of the container, preferably  
5 either a cap without an integral orifice is used to cap the  
container or a plug is inserted in the container's neck  
after the container has been filled to a level below the  
neck using a plug sized to occupy at least 50% of the neck  
volume. This is done in part to improve mixing efficiency  
10 when the container's contents are blended by e.g. an  
external mixing device, such as a Red Devil model 5300 twin  
axis mixer (Brooklyn Park, MN) or the like. Preferably the  
container is situated in the mixer in a position at an angle  
of greater than 10 degrees, more preferably greater than 30  
15 degrees, from its major axis vertical orientation, and most  
preferably in a position substantially inverted from its  
filling position.

Except in the operating and comparative examples, or where  
20 otherwise explicitly indicated, all numbers in this  
description indicating amounts of material ought to be  
understood as modified by the word "about".

The following examples will more fully illustrate the  
25 embodiments of this invention. All parts, percentages and  
proportions referred to herein and in the appended claims  
are by weight unless otherwise illustrated.

## Example 1

The custom formulation of separate embodiments of an inventive body lotion, hair conditioner, facial cleanser, body mist, toner, body wash, instant hand cleanser, hair shampoo and face lotion are illustrated in Table 1A. Specifically illustrated is the choice of a single base formula corresponding to the product type above, the choice of one of three different embodiments of inventive fragrance concentrates, or alternatively, of a single, inventive fragrance concentrate, to be dispensed either in one, two or three portions in order to provide moderate, strong, and stronger fragrance intensity levels, and the choice of one or more of four different embodiments of inventive benefit agents. Tables 1B and 1C illustrate embodiments of the inventive fragrance vehicle or blank, and the inventive benefit vehicle or blank respectively.

## Example 2

Table 2 shows in further detail the composition of the embodiment of the custom body lotion product base depicted in table 1. Table 2a shows the composition of a body lotion base concentrate, tables 2b and 2c show the composition of embodiments of an inventive fragrance and benefit agent concentrate respectively that the consumer may select, and table 2d shows how the consumer selected agents are blended together to make the custom body lotion product. If the consumer does not pick sufficient choices of a fragrance, benefit agent, or other performance agent; sufficient

inventive vehicle or blank fragrance/benefit agents, as depicted in tables 2e and 2f respectively, are substituted.

### Example 3

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Table 3a shows in further detail the composition of an embodiment of the custom hair conditioner product base depicted in table 1. Inventive fragrance and benefit agents are depicted in tables 2b and 2c above. Table 3b shows how  
10 the consumer selected agents are blended together to make the custom hair conditioner product. As for the body lotion in Example 2, if the consumer does not pick sufficient choices for a fragrance or benefit agent for the hair conditioner, sufficient inventive vehicle or blank  
15 fragrance/benefit agents as depicted in tables 2e and 2f respectively are substituted.

Table 1A

Product Form	Base Formula	Fragrance Allotment #1	Fragrance Allotment #2	Fragrance Allotment #3	Benefit #1	Benefit #2	Benefit #3	Benefit #4
Body Lotion	90.435%	0.87%	0.87 %	0.87 %	Solvent (Water)	Solvent (Water)	Solvent (Water)	Solvent (Water)
Hair Condit-ioner	91.478%	0.522%	0.522%	0.522%	Solubilizing Agent (PEG-40 Hydrogenated Castor Oil & Edta)	Solubilizing Agent (PEG-40 Hydrogenated Castor Oil & Trideceth-9) Preservatives (Glydant Plus & Edta)	Solubilizing Agent (PEG-40 Hydrogenated Castor Oil & Trideceth-9) Preservatives (Glydant Plus & Edta)	Solubilizing Agent (PEG-40 Hydrogenated Castor Oil & Trideceth-9) Preservatives (Glydant Plus & Edta)
Facial Cleanser	92.2636%	0.26%	0.26%	0.26%	Colour & Fragrance	Colour & Fragrance	Performance Agent (Benefit)  1.74%	Performance Agent (Benefit)  1.74%
Body Mist Toner	86% 91.1%	2% 0.3%	2% 0.3%	2% 0.3%	2% 2%	2% 2%	2% 2%	2% 2%
Body Wash Instant Hand Cleaner	89.5% 83.49%	1.33% 0.56%	1.33% 0.56%	1.33% 0.56%	1.625% 3.71%	1.625% 3.71%	1.625% 3.71%	1.625% 3.71%
Cleanser Hair Shampoo	90.8%	0.84%	0.84%	0.84%	1.675%	1.675%	1.675%	1.675%
Face Lotion	93.03%	0.084%	0.084%	0.084%	1.68%	1.68%	1.68%	1.68%

Table 1B

Table 1C

<u>Fragrance Blank</u>	<u>Benefit Blank</u>
Solvents (Dipropylene Glycol & Propylene Glycol)	Solvent (Water)
Preservatives (Glydant Plus & Tetrasodium Edta)	Solubilizing Agent (PEG -40 hydrogenated Castor Oil and Trideceith-9)
UV-Inhibitor (Benzophenone-2)	Preservatives (Glydant Plus and Disodium EDTA)
No Colour	

Tables 2 a - f

Table 2a

## Base Hand Lotion formula

COMPONENT	% wt/wt
WATER	75 - 80%
Na2 EDTA	0.04 - .08
magnesium aluminum silicate	0.02 - .04
TiO <sub>2</sub>	0.08 - 0.12
carbopol	8 - 12
Triethanolamine	1 - 1.5
STEARIC ACID	2 - 3
Cetyl Alcohol	2 - 3
Mineral Oil	2 - 3
PEG-100 Stearate	0.2 - 1.0
steramide	0.2 - 1.0
Glyceryl Stearate	0.2 - 1.0
silicone	0.2 - 1.0
C12-15 Alkyl Ethylhexanoate	0.2 - 1.0
Glydant Plus	0.1 - 0.5

**Table 2b**

Custom fragrance formula

Ingredient	Function	% wt/wt
Fragrance	Performance Agent	40 - 60 %
Propylene Glycol	Solvent	40 - 60 %
Glydant Plus liquid	Preservative	0.1 - 0.5 %
Tetrasodium EDTA	Preservative	0.01 - 0.2%
Benzophenone-2	UV-Inhibitor	0.1 - 0.5 %
Optional Colours	Performance Agent	0.01 - 3.0 %

**Table 2c**

Custom benefit formula

Ingredient	Function	% wt/wt
DI Water	Solvent	93 - 97
Benefit Component	Performance Agent	0.3 - 1.0 %
Solubilizer	Solubilizing Agent	2 - 6 %
Glydant Plus liquid	Preservative	0.1 - 0.5 %
Disodium EDTA	Preservative	0.01 - 0.1 %



**Table 2d****Finished Hand Lotion Formula**

Ingredient	% wt/wt
Base Lotion Formula	90.4 %
Fragrance Formula	2.6 %
Benefits Formulas	7.0 %

**Table 2e****Custom benefit blank formula**

Ingredient	Function	% wt/wt
DI Water	Solvent	93 - 97
Solubilizer	Solubilizing Agent	2 - 6 %
Glydant Plus liquid	Preservative	0.1 - 0.5 %
Disodium EDTA	Preservative	0.01 - 0.1 %

**Table 2f****Custom fragrance blank formula**

Ingredient	Function	% wt/wt
Dipropylene Glycol	Solvent	40 - 60 %
Propylene Glycol	Solvent	40 - 60 %
Glydant Plus liquid	Preservative	0.1 - 0.5 %
Tetrasodium EDTA	Preservative	0.01 - 0.2%
Benzophenone-2	UV-Inhibitor	0.1 - 0.5 %

Tables 3a and b

**Table 3a**

Base Hair Conditioner formulation

Ingredients	% wt/wt
DI Water	80 - 90
Citric Acid	0.1 - 0.4
Hydroxyethylcellulose	0.1 - 0.4
Stearamidopropyl Dimethylamine	0.2 - 1.0
Stearyl Octyldimonium Methosulfate	1.0 - 2.0
BES & Stearyl Alcohol	0.2 - 1.0
Cetyl Alcohol	1.5 - 4.0
Stearyl Alcohol	1.0 - 2.0
Disodium EDTA	0.1 - 0.4
Potassium Hydroxide	0.01 - 0.1
Glydant Plus Liquid	0.1 - 0.4
dimethyl siloxane derivative & TEA-	0.7 - 2.0
Dodecylbenzenesulfonate	
Siloxane derivative	0.7 - 2.0

**Table 3b**

Finished Hair Conditioner Product

Ingredient	% wt/wt
Base Conditioner Formula	91.5 %
Fragrance Formula	1.5 %
Benefits Formulas	7.0 %

The foregoing description and examples illustrate selected embodiments of the present invention. In light thereof variations and modifications will be suggested to one skilled in the art, all of which are within the scope and  
5 spirit of this invention.

CLAIMS

1. A method for providing a customized, personal care product to a consumer at a location remote from a second location in which a personal care product base composition is prepared, comprising:

(a) providing a selection from a plurality of personal care base compositions;

(b) providing a selection from a plurality of variants from a first class of performance agents, each of the variants being delivered in a first vehicle, the first vehicle for each of the variants having at least two ingredients in common with each other, the first vehicle being compatible with a mixture of the personal care base composition, and a second class of performance agents different from the first class;

(c) providing a selection from a plurality of variants of the second class of a performance agents, each of the variants being delivered in a second vehicle, the second vehicle for each of the variants having at least two ingredients in common with each other;

(d) permitting the consumer to select, in any sequence, at least one personal care base composition; at least one variant from the first class of performance agents; and at least one variant from the second class of performance agents;

(e) dosing, in a predetermined sequence, the consumer selected personal care base composition and

performance agents into a container to form a personal care product; and  
(f) mixing the personal care product until the product is uniform.

5

2. A method according to claim 1, wherein the second vehicle for each variant has at least three ingredients in common.

10 3. A method according to claim 1 or claim 2, wherein a sufficient quantity of a blank composition is dosed in the container, in substitution for at least one performance agent, whereby the final concentration of base product ingredients in the personal care  
15 composition is adjusted to be substantially equal to that of a final product where no substitution of the performance agents was made.

20 4. A method according to claim 3, wherein the blank composition has at least two ingredients in common with any one of the performance agents.

25 5. A method according to any one of claims 1 to 4, wherein the customized personal care product is selected from a body wash, a body lotion, a body mist spray, a hydroalcoholic toner, a facial cleansing gel, a hand cleanser, a hair shampoo, a hair conditioner, a face lotion, a deodorant, a bar soap, a bath foam, and bath salts.

30

6. A method according to any of the preceding claims wherein a customized label is applied to the container

identifying the product and only the components of the base formula and dosed performance agents contained therein.

- 5 7. A method according to any of the preceding claims, wherein the first class of performance agents are fragrances.
- 10 8. A method according to claim 7 wherein each of the fragrances contain a solvent and at least one preservative in common with each other.
- 15 9. A method according to claim 7 or claim 8, wherein at least one fragrance selection has a plurality of scent intensity levels selectable by the consumer.
- 20 10. A method according to any of the preceding claims wherein the performance agents are selected from a fragrance, a colorant, or a benefit agent.
- 25 11. A method according to any of the preceding claims wherein the second class of performance agents are benefit agents.
- 30 12. A method according to claim 11 wherein at least one benefit selection has a plurality of benefit intensity levels selectable by the consumer.
13. A method according to claim 2 wherein the second vehicle's common ingredients include a solvent, a solubilizing agent, and a preservative.

14. A method according to claim 8 or claim 13, wherein the solvent is selected from water, a monohydric alcohol, a polyhydric alcohol, or a blend thereof.
- 5 15. A method according to claim 13, wherein the solubilizing agent is selected from at least one of a polyethylene glycol ether of a fatty alcohol, a polyethylene glycol ether of hydrogenated castor oil, a polyethylene glycol derivative of a sorbitan ester,  
10 propylene glycol, a polysorbate, a glycerol ester, a polyethylene glycol derivative of a glycerol ester, an alkyl phosphate or an alkyl sulfate.
- 15 16. A method according to claim 8 or claim 13, wherein the preservatives are selected from DMDM Hydantoin, Iodopropynyl Butylcarbamate, polyaminocarboxylic chelates, or salts thereof, or phosphonate chelates.
- 20 17. A method according to any of the preceding claims, comprising dosing a third class of performance agent different from the first and second class of performance agent, the third class of performance agent having at least two ingredients in common with at least one of the first and second class of performance agents;  
25 the third class of performance agent being compatible with the product base, and the first and second class of performance agents.
- 30 18. A method according to claim 6, wherein the label contains a code capable of tracking the identity of both the product and the consumer for later reference.

19. A method according to claim 18 wherein the code is in the form of a machine scannable bar code.
20. The method of claim 1 where the container has a volume  
5 under about 1 liter.
21. A method according to claim 20 wherein the container has a neck; a plug is inserted in the container's neck after the container has been filled to a level below  
10 the neck; the plugged neck is then capped; the plug occupying at least 50% of the volume of the neck to improve mixing efficiency when the container's contents are blended by a mixing device while the container is situated in a position substantially inverted from its  
15 filling position.
22. A method according to claim 20 or 21 wherein the container has a neck; a cap without an orifice is used to cap the container to improve mixing efficiency when  
20 the container's contents are blended by a mixing device while the container is situated in a position substantially inverted from its filling position.
23. A method according to any of the preceding claims  
25 wherein the container is agitated while its major axis is positioned at an angle greater than 10 degrees from the vertical.
24. A method according to claim 23 wherein the angle is  
30 greater than 30 degrees from the vertical.



25. A method according to any of the preceding claims wherein the personal care product base has a viscosity in the range of about 0.9 to 100,000 cps at 25 °C.
- 5 26. A method according to any of claims 1 to 25 wherein the product base's viscosity is in the range of about 0.9 to 30,000 cps at 25 °C.
- 10 27. A method to any of the preceding claims, wherein the second location is a retail location.

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(54) Title: **A SYSTEM FOR CUSTOMIZING PERSONAL CARE PRODUCTS**

(57) Abstract: A system is described for providing a customized, personal care product to a consumer at a location, typically the point of sale, that is remote from a second location in which a personal care product base composition is prepared. A selection of performance agents of different classes with a common vehicle is made available to the consumer for custom formulation of a personal care product with the desired attributes. The system typically includes a product base, a fragrance part, and one or more performance agent parts that may contain benefit agents, botanical extracts, active ingredients for skin and hair, and the like. A blank vehicle is substituted if insufficient performance agents are selected.



**WO 02/15735 A3**

# INTERNATIONAL SEARCH REPORT

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## A. CLASSIFICATION OF SUBJECT MATTER

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## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 443 741 A (REVLON) 28 August 1991 (1991-08-28) figure 1 table 3 claims 1,2,11	1
A	US 5 993 792 A (RATH MAUREEN L ET AL) 30 November 1999 (1999-11-30) cited in the application claims 1-3,10,20	1
A	US 5 622 692 A (CASTRO JOHN R ET AL) 22 April 1997 (1997-04-22) column 2, line 34 - line 47	1
A	FR 2 560 767 A (PARDO ARMAND) 13 September 1985 (1985-09-13) claim 5	1



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Patent family members are listed in annex.

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PCT/EP 01/07909

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0443741	A	28-08-1991	US 5163010 A	10-11-1992
			AT 123634 T	15-06-1995
			AU 639298 B2	22-07-1993
			AU 7109691 A	29-08-1991
			CA 2036659 A1	23-08-1991
			CA 2036659 C	14-11-1995
			DE 69110315 D1	20-07-1995
			DE 69110315 T2	14-03-1996
			EP 0443741 A1	28-08-1991
			ES 2076461 T3	01-11-1995
			JP 4215995 A	06-08-1992
			NZ 237128 A	28-08-1995
US 5993792	A	30-11-1999	US 5972322 A	26-10-1999
US 5622692	A	22-04-1997	AU 697347 B2	01-10-1998
			AU 7535794 A	21-03-1995
			CA 2168558 A1	02-03-1995
			DE 69411924 D1	27-08-1998
			DE 69411924 T2	17-12-1998
			WO 9505892 A1	02-03-1995
			EP 0717657 A1	26-06-1996
			ES 2120065 T3	16-10-1998
			JP 9502022 T	25-02-1997
			NZ 271658 A	24-11-1997
			ZA 9406410 A	23-02-1996
FR 2560767	A	13-09-1985	FR 2560767 A1	13-09-1985
			EP 0173705 A1	12-03-1986
			WO 8503860 A1	12-09-1985